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### REMARKS

Claims 1-20 are now in the case.

No claim has been allowed.

### The Amendments.

Independent Claim 1 has been amended to clarify that the rake recited in paragraph (b) is a grapple rake and to further recite that the grapple rake comprises a thumb for grasping objects. Support for this limitation is found in paragraph [0030] on page 10 of the specification. New independent Claim 15 has been added. This Claim recites the limitations of original independent Claim 1 and dependent Claim 5, and further specifies that the subsoiling shank is curvilinear as supported, for example, in paragraph [0026] on page 8 of the specification. Newly-added dependent Claim 16 recites that the number of sockets is one or two, as supported in paragraph [0028] on page 9 of the specification. Newly-added dependent Claims 17, 18, 19 and 20 parallel original dependent Claims 2, 3, 6 and 7, respectively.

### The Rejection under 35 U.S.C. §102(b).

Claims 1-5 and 7-14 have been rejected under 35 U.S.C.

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§102(b) as being anticipated by Keigley. Withdrawal of this rejection is requested for the following reasons.

The rake of Keigley is not a grapple rake as required by the claims, but rather is a soil rake for use in lawn and grounds preparation. In the art of heavy equipment, the term "grapple" has acquired a meaning requisite of a design adapted for grabbing, holding, and usually lifting objects. Enclosed herewith are excerpts from a 2004 John Deere Construction Equipment Guide showing a variety of grapple designs, all of which comprise structure for grasping objects. Shown on page 26 of the Deere Guide is a grapple rake which is described as a loader having a top clamp (for grasping objects). Moreover, Applicants have specifically incorporated by reference (paragraph [0030]) U.S. Patent No. 5,813,822 (copy enclosed herewith) for the purpose of showing a representative grapple structure having a "thumb" for grasping objects for use in accordance with the invention. Other patented grapple devices are described in U.S. Patent Nos. 4,818,005, 5,890,754, 5,975,604 and 6,176,531 (title pages, only, enclosed herewith). The device of Keigley has no structure that serves to grasp objects, and therefore is not a grapple rake as required by the claims.

Regarding new Claims 15-20, Keigley fails to show a

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curvilinear subsoiling shank. The straight shanks of the reference serve to scarify the soil, but would in no way impart an uplifting of the soil above and in front of the shank and cause a lateral fracturing of the soil strata as described by Applicants (see paragraph [0031]). Accordingly, these Claims are also not anticipated by Keigley.

**The Rejection under 35 U.S.C. §103(a).**

Claim 6 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Keigley in view of Evans. Withdrawal of this rejection is requested for the reasons that follow.

Evans has been relied upon to show a subsoiling shank having a wing 34. Applicants acknowledge that the structure of Evans shown in FIG. 5 is similar to that contemplated by Applicants' Claim 6. However, Applicants urge that there would have been no motivation to combine the structure of Evans with that of Keigley. The shanks 30, shoes 33 and teeth 34 of Evans collectively serve to mix various layers of road bed material in order to achieve a gradual and uniform change in the material or texture of the road bed from top to bottom (column 1, lines 37-43). The scarifying teeth 164 of Keigley, on the other hand, are intended to merely scarify the earth. There is no mention of mixing various layers; and, in lawn preparation, it is seldom

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desirable to mix topsoil with an underlying layer which is often a heavier or rockier stratum that is not desirable for growing turf. Even if the earth-working tools of Evans were substituted for the scarifiers of Keigley, the resultant implement would, nonetheless, fail to teach a combination grapple rake and subsoiler.

#### **Supplied References.**

Copies of the 2004 John Deere Construction Equipment Guide, a copy of U.S. Patent No. 5,813,822, and copies of the title pages of U.S. Patent Nos. 4,818,005, 5,890,754, 5,975,604 and 6,176,531 have been enclosed for the Examiner's convenience. The publications have not been submitted with an Information Disclosure Statement (with its accompanying fees) or listed on a form PTO-1449 because they do not: (1) establish a *prima facie* case of unpatentability, or (2) refute any position taken by Applicants, as defined by 37 CFR 1.56(b).

#### **Summary.**

The Claims as now amended clearly recite that the claimed rake is a grapple rake. Applicants have presented documentation showing that the expression "grapple rake" has an established meaning in the art which distinguishes the structure of the

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grapple rake from that of other rake-type implements, such as that disclosed by Keigley. The applied art fails to teach or suggest combining a subsoiling implement with a grapple rake.

Accordingly, Claims 1-20 are believed to be in condition for allowance, and a favorable action thereon is earnestly solicited. If the Examiner has any questions or wishes to discuss the resolution of any remaining issues, he is invited to call the undersigned at 309-681-6512.

Respectfully submitted,



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The background of the cover is a dense collage of line art illustrations of various construction and agricultural equipment. These include excavators, bulldozers, tractors, and various attachments like buckets, blades, and tires. The drawings are in a technical, sketch-like style.

# CONSTRUCTION EQUIPMENT

## *Attachment & Custom Engineering Guide*

*Customer Version  
14th Edition*



JOHN DEERE

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# INTRODUCTION

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This Guide is a list of working tools made by John Deere and other manufacturers which may be used on John Deere construction and forestry equipment. It is a reference for locating the types of specialized tools and equipment needed by our customers.

Questions about availability, prices, and installation information on specific tools and equipment should be directed to your John Deere Construction Equipment dealer.

# HOW TO USE THIS GUIDE

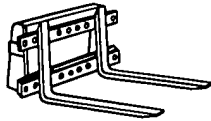
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Attachments included in this Guide not supplied by John Deere Construction & Forestry Division are not designed, manufactured, sold, or endorsed by John Deere. The accuracy of the information provided is the responsibility of those manufacturers and not that of John Deere Construction & Forestry Division.

The listings are for reference only. They do not suggest the size or model of attachment suitable for each John Deere machine. In order to properly match an attachment to a John Deere machine, ask your John Deere dealer.

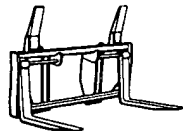
## **FORKS continued**

### **FORK, Loader**



Replaces bucket on utility loaders for handling palletized material.

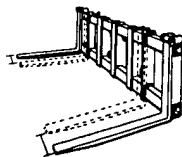
### **FORK, Lumber and Pallet**



Loader mounted. Handles logs, lumber, and palletized material. May have adjustable tines, roll-back guards, swinging, or floating tines.

CAUTION: Requires load guard on four-wheel-drive loaders without four-post ROPS.

### **FORK, Pipe and Pole**



Width adjustable to stabilize wide loads.

CAUTION: Requires load guard on four-wheel-drive loaders. Order AT70467 on 544D and 644D, AT70468 on 444D.

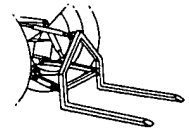
### **FORK, Pipe (with Top Clamp)**



Loader mounted, specially adapted forks with top clamps for handling steel pipe.

## **A T T A C H M E N T S**

### **FORK, Three-Point Hitch**

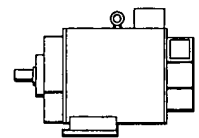


Pallet forks attach to standard rear or front three-point hitch.

### **FORKLIFT MAST ATTACHMENTS**

All Deere forklifts. Masts, load backrests, rotators, auxiliary hose kits, fourth spool valve kits, swing frames, bin clamps, block tines swing hook, and custom-order attachments.

### **GENERATOR**



Driven by machine hydraulic system or PTO.

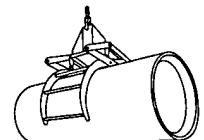
### **GRAPPLES, EXCAVATOR**

#### **GRAPPLE, Barrier Lifting**



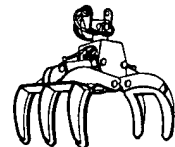
Tongs for placing and moving portable highway barriers.

#### **GRAPPLE, Pipe Lifting**



Tongs for lifting and placing sections of concrete pipe.

#### **GRAPPLE, Stump and Brush**



Mounts on excavator in place of bucket.

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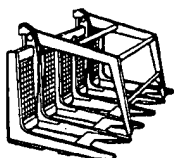


## ATTACHMENTS

### GRAPPLES continued from previous page

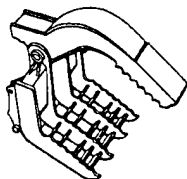
#### GRAPPLES, LOADER

##### GRAPPLE, Cane



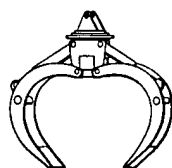
Replaces loader bucket for handling and stacking sugar cane.

##### GRAPPLE, Demolition/Rock



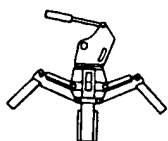
For large-capacity wheel loaders. Handles large rocks in quarry operations where sorting and sizing are required.

#### GRAPPLES, LOG



Mounts at end of excavator arm. The boom and stick are usually modified to increase lift height and reach, such as for a heel-boom. Also used on loaders with high-lift booms.

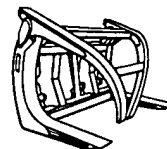
##### GRAPPLE, Butt-n-Top



For tree-length logs. a.k.a. "Butt-n-Top." Sounds like "button top."

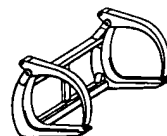
#### GRAPPLES, LOG LOADER

##### GRAPPLE, High-Capacity/Baled Overarms



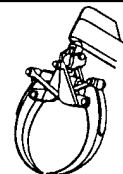
A baled-type grapple with tight closure for handling large loads or single logs.

##### GRAPPLE, High-Capacity/Heavy-Duty



Maximum capacity inside the clamps for large logs or loads of short logs, pulpwood, or saw logs. Mounted on four-wheel-drive loaders or crawler loaders. Dual top clamps close on tine tips.

#### GRAPPLES, LOG SKIDDER

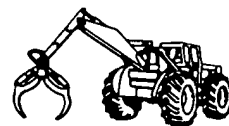


Complete mechanism to mount on a wheel skidder tractor frame. Eliminates the need for the choker setters or for the operator to dismount.

Crawler tractor-mounted skidding grapple.

Grapple heads for Deere skidders.

##### GRAPPLE, Swinging Boom



Long-reaching articulated boom. Swings in 140-degree arc, gathers and unloads logs with less maneuvering. For wheel or crawler skidder tractors.

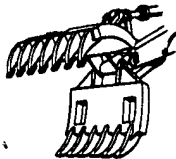
## **GRAPPLES continued**

### **GRAPPLE, MAGNET**



For sorting and handling ferrous and other scrap.

### **GRAPPLES, ROCK AND DEMOLITION**



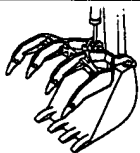
Replaces bucket for handling rock, scrap, and demolition debris or for placing riprap.

### **GRAPPLE, Scrap**



Two-, three-, or four-tine grapples for backhoes and excavators. Suitable for handling rock, brush, debris, scrap, etc.

### **GRAPPLE, Thumb**



A demolition, trash, or pioneering grapple. Can replace bucket or the "thumb" section only. Can be used with the standard excavator bucket. Thumb section can be stiff-arm mounted or controlled with a hydraulic cylinder.

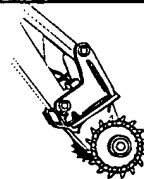
## **A T T A C H M E N T S**

### **GRAPPLE, Tong, Rail**



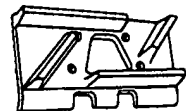
A special grapple for use with hydraulic rotator on backhoes or excavators for handling railroad rails.

### **GRINDER, Concrete Rock**



Backhoe or excavator mount.

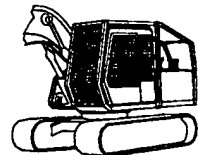
### **GROUSER, Demolition (Recycling)**



Special multiple grouser design which breaks up materials.

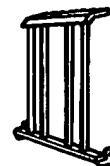
### **GUARDS**

#### **GUARDS, Cab, Excavators**



For demolition, brush cutting, and logging.

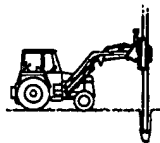
#### **GUARDS, Grille**



Front radiator grille guards or severe-duty grille to replace standard grille for backhoe loaders, utility crawlers, and construction crawlers. Rear grille guards for four-wheel-drive loaders.

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## POLE ERECTOR

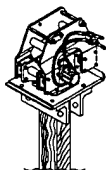


Replaces loader bucket. May use quick hitch. Swiveling grapple for picking up, carrying, and erecting long poles.

## POST DRIVER



Three-point hitch, with PTO or hydraulic drive, for driving fence posts.

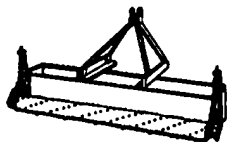


Vibratory. Post driver/puller adapter on plate-style compactor.

## PRESSURIZER, CAB

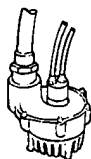
Special-order option for 600 and 700 Series Graders.

## PULVERIZER/AERATOR



A landscape finishing tool, three-point hitch mounted on utility tractors. May include a grass seeder and fertilizer attachment.

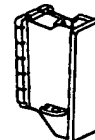
## PUMP, Dewatering



Hydraulic powered pumps to run off tractor hand tool hydraulic outlets.

# ATTACHMENTS

## PUSH BLOCK



Mounts on front of grader main-frame for pushing scrapers or other machines. Also serves as a front counterweight.

## PUSHER/BORER/PULLER



A backhoe or excavator serves to lift and position the tool in an excavation and to supply hydraulic power. Used for underground road or driveway crossings of utility lines – electric, telephone, gas.

## QUICK HITCH

See also COUPLERS.

Backhoes, compact excavators, excavators, wheel loaders, and crawler loaders.

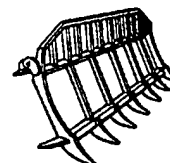
## RAIL WHEELS



Steel guide wheels to hold a tractor on the rails for track repair work.

## RAKES

### RAKE, Blade {Pin On}



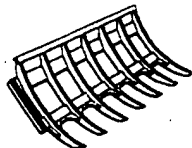
Fits over dozer blade. Swings up or is easily removed when not in use.

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## ATTACHMENTS

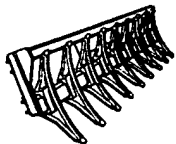
### RAKES continued from previous page

#### RAKE, Clearing and Stacking



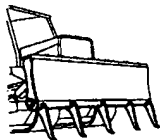
Dozer mounted; lighter weight construction. Curved teeth lift and stack trees and debris while sifting out dirt. Builds cleaner windrows for efficient burning.

#### RAKE, Dozer



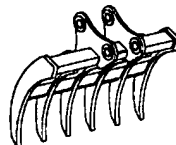
Replaces dozer blade on the C-frame or push arms for heavy-duty landclearing operations – removing stumps, roots, and rocks.

#### RAKE, Dozer with Flexible Teeth



Teeth mounted on individual pivots with hydraulic springs connected to accumulator.

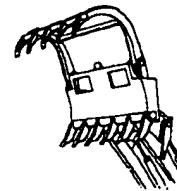
#### RAKE, Excavator



Excavator mount, for site preparation and landscaping.

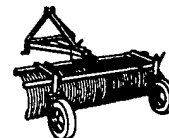
Excavator rakes are a factory option for compact excavators.

#### RAKE, Grapple



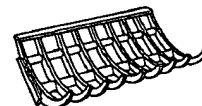
A loader rake with top damp.

#### RAKE, Landscape



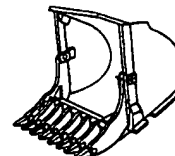
A three-point hitch or towed implement for final preparation of yards, parks, golf courses, etc., prior to seeding or sodding. Also used for spreading and grading fine gravel and for removing large rocks, roots, etc., from the surface.

#### RAKE, Loader



Mounts in place of the bucket on four-wheel-drive or crawler loaders. Loads debris at truck height. Long curved teeth for maximum load capacity. Bucket cylinder controls positions for digging depth or transporting.

#### RAKE, Loader, Bucket {Pin-On}



Pins to buckets of four-wheel-drive or crawler loaders. Rake tines become an "extension" of the bucket cutting edge. Loads debris at truck height.

#### RIDE CONTROL

Special hydraulic circuit designed to provide smoother roading. Four-wheel-drive loaders and backhoe loaders.

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